**WHAT IS CLAIMED IS:**

1. A wavelength division multiplexing (WDM) light source, comprising:

a Fabry-Perot laser for injecting spectrum-spliced incoherent light to amplify and output only an oscillation mode matching with a wavelength of the injected light; and

a bias controlling unit for adjusting a bias current supplied to the Fabry-Perot laser to a value adjacent to a threshold current of the Fabry-Perot laser, whose threshold current is changed according to a temperature and a relationship between the injected light changed depending to a temperature and a wavelength of the oscillation mode.

2. A WDM light source according to claim 1, wherein the bias controlling unit comprises:

a threshold current sensor for sensing the threshold current of the Fabry-Perot laser; and

a bias controller for adjusting the bias current supplied to the Fabry-Perot laser depending on the sensed threshold current.

3. A WDM light source according to claim 1, wherein the bias controlling unit controls the bias current supplied to the Fabry-Perot laser to have a value between at least one half and at most one and half of the threshold current of the Fabry-Perot laser.

4. A WDM light source according to claim 2, wherein the threshold current sensor includes an optical power sensor for sensing the threshold current of the Fabry-Perot laser based on a change of optical power of the Fabry-Perot laser.

5. A WDM light source according to claim 2, wherein the threshold current sensor includes an impedance sensor for sensing the threshold current of the Fabry-Perot laser based on a change of impedance of the Fabry-Perot laser.

6. A WDM light source according to claim 2, wherein the threshold current sensor includes both a temperature sensor for sensing a working temperature of the Fabry-Perot laser and a lookup table.

7. A wavelength division multiplexing (WDM) light source comprising:

a light source;

a Fabry-Perot laser for suppressing an oscillation mode mismatched with a wavelength of injected light and for amplifying and outputting only an oscillation mode matching with the wavelength of the injected light;

a wavelength division multiplexer for spectrum-splicing light, which is generated from the light source, to provide the spectrum-spliced light to the Fabry-Perot laser as injecting light, and for multiplexing a wavelength-locked signal wavelength-locked by the Fabry-Perot laser;

a circulator for inputting the light generated from the light source into the

wavelength division multiplexer, and for outputting a multiplexed signal multiplexed by the wavelength division multiplexer to a transmission link;

a threshold current sensor for sensing a threshold current of the Fabry-Perot laser, whose threshold current is changed according to a temperature; and

a bias controlling unit for adjusting a bias current supplied to the Fabry-Perot laser to a value adjacent to the threshold current according to the sensed threshold current.

8. A method for maintaining wavelength-locking of a Fabry-Perot laser regardless of a change of external temperature, the method comprising the steps of:

(a) measuring a threshold current of the Fabry-Perot laser, whose threshold current is changed according to a temperature and a relationship between injected light changed depending to a temperature and a wavelength of oscillation mode;

(b) supplying a bias current having a value adjacent to the threshold current to the Fabry-Perot laser; and

(c) injecting spectrum-spliced incoherent light into the Fabry-Perot laser.

9. A method according to claim 8, wherein the bias current supplied to the Fabry-Perot laser has a value between at least one half and at most one and half of the threshold current of the Fabry-Perot laser.

10. A method according to claim 8, wherein step a is carried out by measuring a change of optical power of the Fabry-Perot laser.

11. A method according to claim 8, wherein step a is carried out by measuring a change of impedance of the Fabry-Perot laser.

12. A method for maintaining wavelength-locking of a Fabry-Perot laser regardless of a change of external temperature, the method comprising the steps of:

(a) measuring a threshold current of the Fabry-Perot laser accor, whose threshold current is changed according to various temperatures and a relationship between injected light changed depending to a temperature and a wavelength of oscillation mode;

(b) converting the temperature and the threshold current corresponding to the temperature into data and for storing the data;

(c) measuring a working temperature of the Fabry-Perot laser;

(d) supplying a bias current to the Fabry-Perot laser using the stored data, the bias current having a value adjacent to a threshold current corresponding to the working temperature of the Fabry-Perot laser; and

(e) injecting spectrum-spliced incoherent light into the Fabry-Perot laser.

13. A method according to claim 12, wherein the bias current supplied to the Fabry-Perot laser has a value between at least one half and at most one and half of the threshold current of the Fabry-Perot laser.